



THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re the Application of: **OHMI, et al.**

Group Art Unit:3753

Serial No.: **09/023,416**

Examiner: **John C. Fox**

Filed: **February 13, 1998**

P.T.O. Confirmation No.: 6923

For: **FLUID CONTROL APPARATUS**

**SUBMISSION OF APPEAL BRIEF**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

March 10, 2005

Sir:

Submitted herewith is an Appeal Brief in the above-identified U.S. patent application.

Also enclosed is a check in the amount of **\$500.00** to cover the cost of filing this Appeal Brief. In the event that any additional fees are due with respect to this paper, please charge Deposit Account No. 01-2340.

Respectfully submitted,

ARMSTRONG, KRATZ, QUINTOS,  
HANSON & BROOKS, LLP



John F. Carney  
Attorney for Applicant  
Reg. No. 20,276

JFC/nrp  
Atty. Docket No. **980150**  
Suite 1000  
1725 K Street, N.W.  
Washington, D.C. 20006  
(202) 659-2930



**23850**

PATENT TRADEMARK OFFICE

Enclosures: Appeal Brief; and check for **\$500.00**



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

APPEAL BRIEF FOR THE APPELLANTS

Ex parte OHMI, et al.

Serial Number: **09/023,416**

Filed: **February 13, 1998**

Appeal No. : \_\_\_\_\_

Group Art Unit: **3753**

Examiner: **FOX, John C.**

**John F. Carney**  
Registration No. **20,276**  
Attorney for Appellant

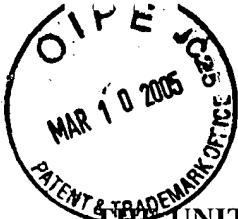
Atty. Docket No. **980150**  
Suite 1000, 1725 K Street, N.W.  
Washington, D.C. 20006  
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PATENT TRADEMARK OFFICE

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**BRIEF ON APPEAL**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Date: March 10, 2005

Sir:

**I. REAL PARTY IN INTEREST**

The real parties in interest in this appeal are Tadahiro Ohmi, 2-1-17-301 Komagefukuro, Aoba-ku, Sendai-shi, Myagi, Japan and Fujikin Incorporated, 3-2, Itachibor 2-chome, Nishi-ku, Osaka-shi, Osaka, Japan.

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**II. RELATED APPEALS AND INTERFERENCES**

There are no other pending appeals or interferences that are believed will directly affect, or be directly affected by, or having a bearing on the Board's decision in this appeal. However, the instant application has had a protracted prosecution wherein, in addition to the prosecution of the original application, the application's history includes the filing of two Continued Prosecution Applications (filed April 27, 2000 and February 23, 2001, respectively) and two Requests for Continued Examination (filed May 28, 2002 and October 15, 2003, respectively). An appeal was taken from a final rejection given in the RCE of May 28, 2002 wherein an Appeal Brief was filed dated November 4, 2002. The Examiner's response to this brief was a withdrawal of the basis final rejection and the issuance of a new rejection based upon new prior art. It is this avenue of prosecution that is the basis of the instant appeal.

In the meantime, a divisional application, U.S. Application Serial No. 10/277,147 was filed on October 22, 2002 containing primarily those claims which were filed originally in the instant application but were withdrawn from consideration by the Examiner as being for non-elected species. This divisional application proceeded to issue on September 9, 2003 without substantial action on the merits of the invention and is now U.S. Patent No. 6,615,871 (copy enclosed herewith).

**III. STATUS OF CLAIMS**

This is an appeal from the final rejection of claim 1, the sole claim currently pending in U.S. Patent Application Serial No. 09/023,416, given in the Office Action dated May 12, 2004. U.S. Patent Application Serial No. 09/023,416 was originally filed containing six (6) claims, claims 2 to 6 of which were cancelled from this application and included in the claims filed in U.S. Patent Application Serial No. 10/277,147 (now U.S. Patent No. 6,615,871).

Claim 1 of U.S. Patent Application Serial No. 09/023,416 is therefore considered by Appellants to be the subject of this appeal.

**IV. STATUS OF AMENDMENTS**

An Amendment under 37 C.F.R. §1.116 dated August 11, 2004 containing certain amendments to claim 1 intended to clarify the claim and to further limit its scope was denied entry in the application by the Examiner (see Advisory Action dated November 19, 2004).

The following brief is therefore in support of the patentability of claim 1 which is currently pending in the application and appears in the Appendix hereof.

**V. SUMMARY OF THE CLAIMED SUBJECT MATTER**

The present invention is as described in the specification and as best shown in Figures 3 to 7 of the application drawings. In the arrangement as illustrated in Figure 4, the invention includes a fluid controller 3, and inlet and outlet on-off devices 6 to 7 and 8 to 10, respectively, which are arranged on the respective inlet and outlet sides of the fluid controller 3. The illustrated inlet devices comprise a two-three type valve arrangement as shown at 6 and 7 in the drawing figure and a two-three-three type shown at 8, 9 and 10. The two-three type valve consists of the two port valve 6 and the three-port valve 7, while the two-three-three type valve consists of the two-port valve 10 and two three-port valves 8 and 9. A single two-port valve device as shown at 91 in Fig. 3(b) and a three-three port valve device as shown at 94 and a three-three-three port valve device as shown at 95 therein are also contemplated for selected use in the practice of the described invention.

The on-off devices in various selected arrangements may thus comprise one valve or a plurality of valves in which adjacent valves interconnect with each other. The invention contemplates that, in the construction of the various arrangements, each of the on-off devices is one of the indicated five kinds; that the main bodies 12, 14, 16, 18 and 20 of the valves are substantially identical; that the ports of the respective valve main bodies are all upwardly facing and are aligned in a row; and that connections between adjacent valve main bodies are made by substantially identically formed joint members 31,33, 34, 36 and 39 which contain internal passages instead of external tubing.

As a result of practice of the claimed invention, fluid control apparatus of compact size are produced as compared with comparable prior art devices that employ external tubing. For example, by use of the disclosed on-off devices, as compared with prior art equipment, reductions of 61% longitudinally, 42% horizontally and 26% area-wise are achieved.

Moreover, improved inventory due to a reduction in the required number of parts obtained via standardization of component design is achieved as a result of there being required with any of the concerned five types of on-off devices, valve main bodies of only two configurations, a two-port configuration and a three-port configuration.

## VI. ISSUES

The principle issue presented for review is whether the Examiner erred in rejecting claim 1 under 35 U.S.C. §102(b) as being anticipated by the fluid control arrangement described in Japanese Patent Publication No. 07-286720 ("JP-720" herein).

VII. **GROUPING OF THE CLAIMS**

This requirement is not applicable to the present appeal since the subject of the appeal is a single claim.

## VIII. ARGUMENT

### A. Examiner's Rejections

In the Office Action dated May 12, 2004, the Examiner withdraws the rejection under 35 U.S.C. §112, second paragraph, given in the Office Action dated November 3, 2003 and repeats the rejection of claim 1 under 35 U.S.C. §102(b) as being anticipated by JA7-286720 (JP '720). It is the Examiner's position that the Japanese reference shows a fluid control apparatus which includes a fluid controller (MFC) 53, on-off devices comprising two-port valves 55, 56 and valve mounts 10/24 and 11/25 disposed on opposite sides of the controller. The Examiner further concludes: a) that "in the body of a single two port valve on either side of a MFC the only ports that will or need to be held in communication are the valve port adjacent the MFC and the MFC port, which is shown in JP '720"; b) that "the ports join at the upper side of the mounts and the lower side of the components"; and c) that "the instant valve mounts are composites of plural elements".

As a result of these perceptions by the Examiner, it is concluded by him that the claimed invention is anticipated under 35 U.S.C. §102(b) by the reference.

### B. Relevant Claim Language

The following specific limitations in claim 1 are not described in the prior art relied upon in the rejection:

a) "each of the on-off devices being of the type selected from the group including a 2-type on-off device having a two port valve, a 2-3-type on-off device having a two-port valve and a

three-port valve, a 2-3-3-type on-off device having two-port valve and two three port valves, a 3-3-type on-off device having two three-port valves, and a 3-3-3-type on-off device having three three-port valves," (lines 7 to 11);

b) "main bodies of two-port valves of all types of on-off devices being identical in configuration and each having an inlet port and an outlet port in a bottom face thereof, and main bodies of three-port valves of all types of on-off devices being identical in configuration and each being formed in a bottom face thereof with an inlet port, an outlet port always in connection with the inlet port, and an inlet-outlet port subopening having a port separate from said inlet port and said outlet port," (lines 12 to 17);

c) "each port of said two-port valves and said three-port valves being arranged in a row disposed in a common plane along said each line," (lines 18 and 19); and

d) "valve mounts mounting said valve main bodies including a plurality of joint members having upper surfaces disposed in substantial coplanar relation, said valve mounts each having a channel for holding the adjacent inlet port and outlet port of adjacent valves or fluid controller in communication," (lines 20 to 23); and

e) "said joint members each containing passages extending entirely internally within the associated joint member and opening in the upper surface thereof to communicate with ports in the bottom faces of said valves and fluid controllers and operatively interconnect said valves and said fluid controller in selected fluid flow relation" (lines 23 to 26).

As to limitation a), the JP '720 reference contains no indication that on-off devices contemplated for use in the arrangement are selected from a group consisting of the five kinds of valves. On the contrary, the showing in this reference is only of an arrangement of two-port valves 54, 55 and 56. As to limitation b), it is clear from the reference (see Fig. 1) that because only two-port valves are contemplated, there are no three-port valves or combinations of two-port and three-port valves as required by the claim. As to limitations c) and d), although the reference arrangement appears not to contemplate any valve construction other than a two-port construction, it can perhaps be admitted that the ports on the respective valves may be aligned, and that the valve mounts 10 and 11, which mount the valves, have coplanar upper surfaces. These facts notwithstanding, it is abundantly clear that the internal passages of the respective joint members 10 and 11 do not open in the upper surface thereof, as required by limitation e) of the claim. Instead, the passages in the members 10 and 11 of the JP '720 reference each open at one end in the upper surface of the member but Fig. 1 of the reference drawing clearly shows that, at their other ends, the respective passages open in the side surfaces of the members. As a result, therefore, it is readily apparent that construction of a fluid control apparatus according to the teachings of the reference would require much more care and accuracy in the manufacture of the elements, particularly in the location of the side openings thereof, in order to enable operative communication between adjacent members. This is as contrasted with the valve mounts of the present invention wherein only accurate spacing between openings on the upper surfaces of the valve mounts, as is also required, in addition to more acute manufacture techniques, in the device of the reference, is necessary.

It is respectfully submitted that the foregoing indicates without question that every limitation recited in the claim on appeal is not described in the JP '720 reference relied upon in rejecting the claim. The claim is thus submitted as being patentable under 35 U.S.C. §102(b). The Examiner's rejection of claim 1 as being anticipated by JP '720 under 35 U.S.C. §102(b) is therefore improper and, consequently, should be reversed.

IX. CONCLUSION

The foregoing establishes that the prior art relied upon by the Examiner in rejecting claim 1 fails to either teach or suggest a fluid control device as particularly defined in claim 1. The Board of Patent Appeals is accordingly requested to reverse the Examiner's rejection.

In the event this paper is not timely filed, Appellant hereby petitions for an appropriate extension of time. The fee for any such extension may be charged to our Deposit Account No. 01-2340, along with any other additional fees which may be required with respect to this paper.

Respectfully submitted,

**ARMSTRONG, KRATZ, QUINTOS, HANSON & BROOKS, LLP**



John F. Carney  
Attorney for Applicant  
Reg. No. 20,276

JFC/nrp

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Enclosure: Appendix

**APPENDIX**

**Claim 1:** A fluid control apparatus comprising a plurality of lines, each line having a fluid controller, an inlet on-off device and an outlet on-off device arranged respectively at an inlet side and an outlet side of each of the fluid controllers, each of the on-off devices on the respective sides of the fluid controllers comprising one valve or a plurality of adjacent valves, with the one valve or the adjacent valves interconnecting each other and with the fluid controllers without using tubing,

each of the on-off devices being of the type selected from the group including a 2 -type on-off device having a two-port valve, a 2-3-type on-off device having a two-port valve and a three-port valve, a 2-3-3 -type on-off device having a two-port valve and two three-port valves, a 3-3-type on-off device having two three-port valves, and a 3-3-3-type on-off device having three three-port valves,

main bodies of two-port valves of all types of on-off devices being identical in configuration and each having an inlet port and an outlet port in a bottom face thereof, and main bodies of three-port valves of all types of on-off devices being identical in configuration and each being formed in a bottom face thereof with an inlet port, an outlet port always in communication with the inlet port, and an inlet-outlet subopening having a port separate from said inlet port and said outlet port;

each port of said two-port valves and said three-port valves being arranged in a row disposed in a common plane along said each line; and

valve mounts mounting said valve main bodies and said fluid controllers including a plurality of joint members having upper surfaces disposed in substantial coplanar relation, said valve mounts each having a channel for holding the adjacent inlet port and outlet port of adjacent valves or fluid controller in communication, said joint members each containing passages extending entirely internally within the associated joint member and opening in the upper surface thereof to communicate with ports in the bottom faces of said valves and fluid controllers and operatively interconnect said valves and said fluid controllers in selected fluid flow relation.